

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for providing reliable transmission Quality of Service (QoS) in a communication network, the method comprising:

A. a local bearer network resource manager sending an establish connection request to a peer bearer network resource manager for requesting to create a QoS connection between the local bearer network resource manager and the peer bearer network resource manager;

B. the local bearer network resource manager receiving an establish connection response from the peer bearer network resource manager so as to create the QoS connection;

C. the local bearer network resource manager periodically sending a handshake message to the peer bearer network resource manager, and determining a connection status according to a handshake response returned by the peer bearer network resource manager; and

D. the local bearer network resource manager transmitting QoS information to the peer bearer network resource manager through the QoS connection, wherein the QoS information is provided to connection nodes connected to the local bearer network resource manager and the peer bearer network resource manager respectively for providing a corresponding resource;

wherein C comprises,

C1. creating a local Keep Active (KA) timer at the local bearer network resource manager, and creating a peer Keep Active (KA) timer at the peer bearer network resource manager,

C2. when the local KA timer is timed out, the local bearer network resource manager adding 1 to timeout times of the local KA timer and sending a further handshake message to the peer bearer network resource manager,

C3. after receiving the further handshake message, the peer bearer network resource manager restarting the peer KA timer and returning a handshake response to the local bearer network resource manager, and

C4. the local bearer network resource manager determining the connection status according to the timeout times of the local KA timer, the peer bearer network resource manager determining the connection status according to whether the peer KA timer is timed out.

2. (Previously presented) The method according to claim 1, wherein the local bearer network resource manager and the peer bearer network resource manager are located in a bearer control layer of a multiservice network.

3. (Canceled)

4. (Previously presented) The method according to claim 1, further comprising:

the peer bearer network resource manager judging whether an identity of the local bearer network resource manager is valid, and if valid, sending the establish connection response to the local bearer network resource manager.

5. (Previously presented) The method according to claim 1, wherein information carried in the establish connection request comprises identification information and authentication information of the local bearer network resource manager initiating the establish connection request.

6 -7. (Canceled)

8. (Previously presented) The method according to claim 1, wherein information carried in the handshake message comprises connection ID information and connection resource state information.

9. (Canceled)

10. (Previously presented) The method according to claim 1, further comprising:
the peer bearer network resource manager managing and controlling resources of the connection nodes connected to the peer bearer network resource manager according to the received QoS information.

11. (Previously presented) The method according to claim 1, further comprising:

the local bearer network resource manager sending a QoS resource control message that carries the QoS information to the peer bearer network resource manager.

12. (Previously presented) The method according to claim 11, wherein the QoS resource control message comprises QoS resource request information, which comprises connection identification, stream information, QoS parameters or a stream descriptor.

13. (Previously presented) The method according to claim 11, wherein the QoS resource control message comprises a QoS resource release request, which comprises a connection identifier or a reason code.

14. (Previously presented) The method according to claim 11, wherein the QoS resource control message comprises a QoS resource modify request, which comprises a connection identifier and modified parameter information corresponding to the QoS connection.

15. (Previously presented) The method according to claim 11, wherein the QoS resource control message comprises a connection status inquiry message, the method further comprises:

the peer bearer network resource manager sending a QoS resource control policy to the connection nodes, which is connected to the peer bearer network resource manager according to the QoS resource control message;

the peer bearer network resource manager receiving a response of the QoS resource control policy from the connection nodes connected to the peer bearer network resource manager;

the peer bearer network resource manager checking resource consistency of the QoS connection; and

the peer bearer network resource manager returning a response of the connection status inquiry message to the local bearer network resource manager.

16. (Previously presented) The method according to claim 15, wherein the information carried in the response of the connection status inquiry message includes any one or more of the following: a connection identifier, stream information, QoS parameters, a stream descriptor, a label stack, a path maximum transmission unit, and a bearer network resource manager stack.

17-19. (Canceled)

20. (Previously presented) The method according to claim 1, wherein the local bearer network resource manager and the peer bearer network resource manager are a bandwidth broker, a call agent, or a connection manager.

21. (Currently amended) A communication network comprising:

a first bearer network resource manager; and

a second bearer network resource manager in communication with the first bearer network resource manager;

wherein the first bearer network resource manager is configured to,

send an establish connection request to the second bearer network resource manager for requesting to create a QoS connection between the first bearer network resource manager and the second bearer network resource manager,

receive an establish connection response from the second bearer network resource manager so as to create the QoS connection,

transmit QoS information through the QoS connection to the second bearer network resource manager, and

wherein the first bearer network resource manager is further configured to periodically send a handshake message to the second bearer network resource manager, and to determine a connection status according to a handshake response returned by the second bearer network resource manager;

create a first Keep Active (KA) timer, add 1 to timeout times of the first KA timer and send a further handshake message to the second bearer network resource manager when the first KA timer is timed out, ~~and to determine a connection status according to the timeout times of the first KA timer,~~

wherein the second bearer network resource manager is configured to,

create a second Keep Active (KA) timer,

restart the second KA timer and return a handshake response to the first bearer network resource manager after receiving the further handshake message, ~~and to determine a connection status according to whether the second KA timer is timed out, and~~

wherein the first bearer network resource manager and the second bearer network resource manager are configured to control and manage resources according to the QoS information.

22. (Canceled).

23. (Previously presented) The communication network according to claim 21, wherein the second bearer network resource manager is configured to judge whether an identity of the first bearer network resource manager is valid, and if valid, send the establish connection response to the first bearer network resource manager.

24. (Canceled)

25. (Currently amended) A method implemented by a bearer network resource manager in a bearer network, the method comprising:

sending an establish connection request for requesting to create a QoS connection to a peer bearer network resource manager;

receiving an establish connection response from the peer bearer network resource manager so as to create the QoS connection;

transmitting QoS information through the QoS connection to the peer bearer network resource manager;

controlling and managing a resource in the bearer network according to the QoS information;

periodically sending a handshake message to the peer bearer network resource manager;

determining a connection status according to a handshake response returned by the peer bearer network resource manager;

creating a local Keep Active (KA) timer;

adding 1 to timeout times of the local KA timer when the local KA timer is timed out;

sending a further handshake message to the peer bearer network resource manager; ~~and~~

~~determining a connection status according to the timeout times of the local KA timer.~~

26. (Canceled).

27. (Canceled)